



FACTS

ABOUT THE SAVANNAH RIVER SITE

Spent Nuclear Fuel at SRS

Personnel at the Savannah River Site (SRS) have extensive experience in safely receiving and managing a wide variety of spent nuclear fuel (SNF) assemblies from both domestic and foreign research reactors. Since 1964, SRS has received over 2,240 casks containing 45,000 SNF assemblies. This work continues to be accomplished with no lost time injuries for the last 15 years.

L Area

Since 1996, the Spent Fuel Project (SFP) has received about 8,900 SNF assemblies in 393 casks from off-site sources. Fuel types include uranium-aluminum alloys, uranium oxides and uranium silicides, and others that vary in uranium enrichment between 19 and 93.5 percent uranium 235. SFP has received and handled about 10 different spent nuclear fuel transportation casks weighing up to 65,000 pounds. SFP also made about 360 on-site spent fuel cask transfers during this time.

Underwater storage facilities, called disassembly basins, were located in all five of SRS's reactor areas. These facilities were designed to store spent nuclear fuel and target assemblies discharged from the reactor cores. This storage allowed the nuclear material to cool after being irradiated in the reactors. The basins were also used to prepare the nuclear materials for transport to the F and H areas processing facilities.

In 1996, L Basin equipment was reconfigured to safely handle and store spent nuclear fuel from off-site (foreign and domestic) research reactors. In February 1997, the first off-site fuel was received and stored in L Basin. To avoid the cost of operating multiple facilities, SRS decided in 1998 to consolidate all of the stored spent fuel at SRS into the much larger, recently refurbished L Basin. By October 2003, all the fuel previously stored in K Basin and the Receiving Basin for Offsite Fuels (RBOF) had been moved to chemical separations facilities for processing or L Basin for storage, leaving L Basin as the only remaining SRS fuel receipt and storage facility.

L Basin has concrete walls 3 feet thick and holds 3.5 million gallons of water with pool depths of 17 to 30 feet. Although all spent fuel assemblies are now "cold" enough to no longer require water cooling, the water provides shielding to protect workers from radiation. Current DOE plans call for the continued receipt of about 7,500 more off-site SNF assemblies through the year 2019. L Basin has adequate storage capacity to support current receipt and disposition plans.

The Future of SNF at SRS

DOE has announced plans to use conventional processing, through H Canyon, as the final disposition of all SRS aluminum-clad SNF. This plan also includes exchanging SRS's stainless steel and zirconium clad fuel for aluminum-based fuel stored at the Idaho National Laboratory. SRS will continue to receive aluminum-based SNF from foreign and domestic research reactors until the planned shutdown of H Canyon in 2019. Conventional processing of this SNF will provide additional uranium for the HEU

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Blend Down program and produce liquid waste to be vitrified in the Defense Waste Processing Facility. The final disposition of DWPF canisters containing vitrified SNF waste will be placement in a geological repository.

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